LIST OF CONTENTS

VOLUME 42 NUMBER 1 1991

B. J. Everitt, K. A. Morris, A. O'Brien and **T. W. Robbins**	The basolateral amygdala–ventral striatal system and conditioned place preference: further evidence of limbic–striatal interactions underlying reward-related processes	1
T. Galli, G. Godeheu, F. Artaud, J. M. Desce, A. Pittaluga, L. Barbeito, J. Glowsinki and **A. Chéramy**	Specific role of *N*-acetyl-aspartyl-glutamate in the *in vivo* regulation of dopamine release from dendrites and nerve terminals of nigrostriatal dopaminergic neurons in the cat	19
J. A. Valentijn, E. Louiset, H. Vaudry and **L. Cazin**	Dopamine-induced inhibition of action potentials in cultured frog pituitary melanotrophs is mediated through activation of potassium channels and inhibition of calcium and sodium channels	29
M. Morelli, S. Fenu, A. Cozzolino and **G. Di Chiara**	Positive and negative interactions in the behavioural expression of D_1 and D_2 receptor stimulation in a model of Parkinsonism: role of priming	41
J.-J. Soghomonian and **M.-F. Chesselet**	Lesions of the dopaminergic nigrostriatal pathway alter preprosomatostatin messenger RNA levels in the striatum, the entopeduncular nucleus and the lateral hypothalamus of the rat	49
S. Rétaux, M. J. Besson and **J. Penit-Soria**	Opposing effects of dopamine D_2 receptor stimulation on the spontaneous and the electrically evoked release of [^{3}H]GABA on rat prefrontal cortex slices	61
H. W. Berendse and **H. J. Groenewegen**	Restricted cortical termination fields of the midline and intralaminar thalamic nuclei in the rat	73
S. F. Sawyer, M. E. Martone and **P. M. Groves**	A GABA immunocytochemical study of rat motor thalamus: light and electron microscopic observations	103
R. W. Turner and **T. L. Richardson**	Apical dendritic depolarizations and field interactions evoked by stimulation of afferent inputs to rat hippocampal CA1 pyramidal cells	125
A. Represa, F. Dessi, M. Beaudoin and **Y. Ben-Ari**	Effects of neonatal γ-ray irradiation on rat hippocampus—I. Postnatal maturation of hippocampal cells	137
F. Dessi, A. Represa and **Y. Ben-Ari**	Effects of neonatal γ-ray irradiation on rat hippocampus—II. Development of excitatory amino acid binding sites	151
H. Hara, H. Kato, T. Araki, H. Onodera and **K. Kogure**	Involvement of lipid peroxidation and inhibitory mechanisms on ischemic neuronal damage in gerbil hippocampus: quantitative autoradiographic studies on second messenger and neurotransmitter systems	159
G. R. Sutherland, J. Peeling, H. J. Lesiuk, R. M. Brownstone, M. Rydzy, J. K. Saunders and **J. D. Geiger**	The effects of caffeine on ischemic neuronal injury as determined by magnetic resonance imaging and histopathology	171
D. B. Reichling and **A. I. Basbaum**	Collateralization of periaqueductal gray neurons to forebrain or diencephalon and to the medullary nucleus raphe magnus in the rat	183

P-B. Andersson, V. H. Perry and S. Gordon	The kinetics and morphological characteristics of the macrophage–microglial response to kainic acid-induced neuronal degeneration	201
B. Volk, U. Hettmannsperger, Th. Papp, Z. Amelizad, F. Oesch and R. Knoth	Mapping of phenytoin-inducible cytochrome P450 immunoreactivity in the mouse central nervous system	215
L. T. Bertini and J. Z. Kiss	Hypophysiotrophic neurons are capable of altering the ratio of co-packaged neurohormones	237
M. Kohzuki, S. Y. Chai, G. Paxinos, A. Karavas, D. J. Casley, C. I. Johnston and F. A. O. Mendelsohn	Localization and characterization of endothelin receptor binding sites in the rat brain visualized by *in vitro* autoradiography	245
W. W. Blessing, Y.-W. Li and S. L. Wesselingh	Transneuronal transport of Herpes Simplex Virus from the cervical vagus to brain neurons with axonal inputs to central vagal sensory nuclei in the rat	261
S. P. Donahue, A. W. English, R. L. Roden and G. A. Schwartz	Tenotomy delays both synapse elimination and myogenesis in rat lateral gastrocnemius	275
P. F. M. Teunis, F. Bretschneider, C. van Groeningen, R. C. Peters and J. J. M. Bedaux	Quantitative aspects of transduction in an electroreceptor organ studied by means of experimental manipulation of the interspike interval	283
J. Opacka-Juffry, M. C. Ruiz de Elvira, F. Tacconelli and C. W. Coen	Catecholamine synthesis inhibitors increase pineal adrenaline content by stimulating adrenal medullary activity	291
BOOK REVIEW **R. C. A. Pearson**	*The Human Nervous System*. Edited by G. Paxinos	299

VOLUME 42 NUMBER 2 1991

COMMENTARY **E. Sher and F. Clementi**	ω-Conotoxin-sensitive voltage-operated calcium channels in vertebrate cells	301
RESEARCH PAPERS **S. S. Smith**	Progesterone administration attenuates excitatory amino acid responses of cerebellar Purkinje cells	309
A. Baranyi, M. B. Szente and C. D. Woody	Properties of associative long-lasting potentiation induced by cellular conditioning in the motor cortex of conscious cats	321
N. R. W. Selden, B. J. Everitt, L. E. Jarrard and T. W. Robbins	Complementary roles for the amygdala and hippocampus in aversive conditioning to explicit and contextual cues	335
T. L. Babb, W. R. Kupfer, J. K. Pretorius, P. H. Crandall and M. F. Levesque	Synaptic reorganization by mossy fibers in human epileptic fascia dentata	351
M. G. P. A. Van Luijtelaar, J. A. D. M. Tonnaer, A. L. Frankhuijzen, H. Dijkstra, J. J. Hagan and H. W. M. Steinbusch	Morphological, neurochemical, and behavioral studies on serotonergic denervation and graft-induced reinnervation of the rat hippocampus	365
G. Keilhoff, G. Wolf and F. Šťastný	Effects of MK-801, ketamine and alaptide on quinolinate models in the maturing hippocampus	379

M. H. M. Bakker and **A. C. Foster**	An investigation of the mechanisms of delayed neurodegeneration caused by direct injection of quinolinate into the rat striatum *in vivo*	387
F. Du, E. Okuno, W. O. Whetsell Jr, C. Köhler and **R. Schwarcz**	Immunohistochemical localization of quinolinic acid phosphoribosyltransferase in the human neostriatum	397
J. L. Labandeira-Garcia, K. Wictorin, E. T. Cunningham Jr and **A. Björklund**	Development of intrastriatal striatal grafts and their afferent innervation from the host	407
M. Manier, D. N. Abrous, C. Feuerstein, M. Le Moal and **J. P. Herman**	Increase of striatal methionin enkephalin content following lesion of the nigrostriatal dopaminergic pathway in adult rats and reversal following the implantation of embryonic dopaminergic neurons: a quantitative immunohistochemical analysis	427
M. Diana, S. J. Young and **P. M. Groves**	Modulation of dopaminergic terminal excitability by D_1 selective agents: further characterization	441
R. T. Matthews and **W. L. Lee**	A comparison of extracellular and intracellular recordings from medial septum/diagonal band neurons *in vitro*	451
R. Martinez-Murillo, T. Fernandez, M. M. Alguacil, F. Aguado, M. Achaval, P. Bovolenta, J. Rodrigo and **M. Nieto-Sampedro**	Subcellular localization of nerve growth factor receptors in identified cells of the rat nucleus basalis magnocellularis: an immunocytochemical study	463
K. Zilles, L. Werner, M. Qü, A. Schleicher and **G. Gross**	Quantitative autoradiography of 11 different transmitter binding sites in the basal forebrain region of the rat—evidence of heterogeneity in distribution patterns	473
S. Y. Chai, M. J. McKinley, G. Paxinos and **F. A. O. Mendelsohn**	Angiotensin converting enzyme in the monkey (*Macaca fascicularis*) brain visualized by *in vitro* autoradiography	483
E. Persohn, P. Malherbe and **J. G. Richards**	*In situ* hybridization histochemistry reveals a diversity of $GABA_A$ receptor subunit mRNAs in neurons of the rat spinal cord and dorsal root ganglia	497
C. Blasquez, S. Jégou, D. Tranchand Bunel, C. Delbende, P. Braquet and **H. Vaudry**	Central-type benzodiazepines inhibit release of α-melanocyte-stimulating hormone from the rat hypothalamus	509
M. Van Lookeren Campagne, A. B. Oestreicher, P. Buma, A. J. Verkleij and **W. H. Gispen**	Ultrastructural localization of adrenocorticotrophic hormone and the phosphoprotein B-50/growth-associated protein 43 in freeze-substituted, Lowicryl HM20-embedded mesencephalic central gray substance of the rat	517
M. Réthelyi, N. K. Mohapatra, C. B. Metz, P. Petrusz and **P. K. Lund**	Colchicine enhances mRNAs encoding the precursor of calcitonin gene-related peptide in brainstem motoneurons	531
M. J. Millan and **F. C. Colpaert**	Opioid systems in the response to inflammatory pain: sustained blockade suggests role of κ- but not μ-opioid receptors in the modulation of nociception, behaviour and pathology	541
G. G. Knyazev, G. B. Knyazeva and **Z. S. Tolochko**	Trophic functions of primary sensory neurons: are they really local?	555
J. C. Deloulme, C. Gensburger, S. Sarhan, N. Seiler and **M. Sensenbrenner**	Effects of basic fibroblast growth factor on the development of GABAergic neurons in culture	561

M. Bergmann, G. Lahr, A. Mayerhofer and **M. Gratzl**	Expression of synaptophysin during the prenatal development of the rat spinal cord: correlation with basic differentiation processes of neurons	569
K. Elekes	Serotonin-immunoreactive varicosities in the cell body region and neural sheath of the snail, *Helix pomatia*, ganglia: an electron microscopic immunocytochemical study	583
E. Keicher, K. Maggio, M.-L. Hernandez-Nicaise and **G. Nicaise**	The lacunar glial zone at the periphery of *Aplysia* giant neuron: volume of extracellular space and total calcium content of gliagrana	593
B. Hoffmeister, W. Jänig and **S. J. W. Lisney**	A proposed relationship between circumference and conduction velocity of unmyelinated axons from normal and regenerated cat hindlimb cutaneous nerves	603
BOOK REVIEWS		613
VOLUME 42 NUMBER 3		1991
K. R. Gogas, R. W. Presley, J. D. Levine and **A. I. Basbaum**	The antinociceptive action of supraspinal opioids results from an increase in descending inhibitory control: correlation of nociceptive behavior and c-fos expression	617
F. N. Quandt, G. D. Nicol and **P. P. M. Schnetkamp**	Voltage-dependent gating and block of the cyclic-GMP-dependent current in bovine rod outer segments	629
P. A. Lapchak and **F. Hefti**	Effect of recombinant human nerve growth factor on presynaptic cholinergic function in rat hippocampal slices following partial septohippocampal lesions: measures of [^{3}H]acetylcholine synthesis, [^{3}H]acetylcholine release and choline acetyltransferase activity	639
F. M. Benes, P. A. Farol, R. E. Majocha, C. A. Marotta and **E. D. Bird**	Evidence for axonal loss in regions occupied by senile plaques in Alzheimer cortex	651
A. Mitani and **K. Kataoka**	Critical levels of extracellular glutamate mediating gerbil hippocampal delayed neuronal death during hypothermia: brain microdialysis study	661
R. L. Makowiec, J. J. Cha, J. B. Penney and **A. B. Young**	Cerebellar excitatory amino acid binding sites in normal, granuloprival, and Purkinje cell-deficient mice	671
C. Cavada and **P. S. Goldman-Rakic**	Topographic segregation of corticostriatal projections from posterior parietal subdivisions in the macaque monkey	683
M. I. Martinez-Mir, A. Probst and **J. M. Palacios**	Adenosine A2 receptors: selective localization in the human basal ganglia and alterations with disease	697
E. Arenas, J. Alberch and **J. Marsal**	Dopaminergic system mediates only δ-opiate inhibition of endogenous acetylcholine release evoked by glutamate from rat striatal slices	707
C. A. Ingham, S. H. Hood and **G. W. Arbuthnott**	A light and electron microscopical study of enkephalin-immunoreactive structures in the rat neostriatum after removal of the nigrostriatal dopaminergic pathway	715
X.-J. Xu, J.-X. Hao, Z. Wiesenfeld-Hallin, R. Håkanson, K. Folkers and **T. Hökfelt**	Spantide II, a novel tachykinin antagonist, and galanin inhibit plasma extravasation induced by antidromic C-fiber stimulation in rat hindpaw	731

M. D. Kawaja, B. A. Flumerfelt, S. P. Hunt and **A. W. Hrycyshyn**	Substance P immunoreactivity in the rat interpeduncular nucleus: synaptic interactions between substance P-positive profiles and choline acetyltransferase- or glutamate decarboxylase-immunoreactive structures	739
K. G. Baker, G. M. Halliday, J.-P. Hornung, L. B. Geffen, R. G. H. Cotton and **I. Törk**	Distribution, morphology and number of monoamine-synthesizing and substance P-containing neurons in the human dorsal raphe nucleus	757
S. Oleskevich, L. Descarries, K. C. Watkins, P. Séguéla and **A. Daszuta**	Ultrastructural features of the serotonin innervation in adult rat hippocampus: an immunocytochemical description in single and serial thin sections	777
A. Daszuta, G. Chazal, S. Garcia, S. Oleskevich and **L. Descarries**	Ultrastructural features of serotonin neurons grafted to adult rat hippocampus: an immunocytochemical analysis of their cell bodies and axon terminals	793
N. Lindefors, S. Brené, J. Kopp, A. Lindén, E. Brodin, G. Sedvall and **H. Persson**	Distribution of cholecystokinin mRNA and peptides in the human brain	813
T. G. Ohm, H. Müller and **E. Braak**	Calbindin-D-28k-like immunoreactive structures in the olfactory bulb and anterior olfactory nucleus of the human adult: distribution and cell typology—partial complementarity with parvalbumin	823
M. Palkovits, K. Kovács and **G. B. Makara**	Corticotropin-releasing hormone-containing neurons in the hypothalamo-hypophyseal system in rats six weeks after bilateral lesions of the paraventricular nucleus	841
J. W. Unger, A. M. Moss and **J. N. Livingston**	Immunohistochemical localization of insulin receptors and phosphotyrosine in the brainstem of the adult rat	853
S. J. H. Brookes, P. A. Steele and **M. Costa**	Identification and immunohistochemistry of cholinergic and non-cholinergic circular muscle motor neurons in the guinea-pig small intestine	863
M. Antal	Distribution of GABA immunoreactivity in the optic tectum of the frog: a light and electron microscopic study	879
A. Ciofi Luzzatto, M. E. De Stefano, D. Guidolin, P. Paggi and **G. Toschi**	Quantitative study of neuronal degeneration induced by *Ricinus* toxin and crush of postganglionic nerves in the ciliary ganglion of quail	893

AUTHOR INDEX

Abrous, D. N. 427
Achaval, M. 463
Aguado, F. 463
Alberch, J. 707
Alguacil, M. M. 463
Amelizad, Z. 215
Andersson, P-B. 201
Antal, M. 879
Araki, T. 159
Arbuthnott, G. W. 715
Arenas, E. 707
Artaud, F. 19

Babb, T. L. 351
Baker, K. G. 757
Bakker, M. H. M. 387
Baranyi, A. 321
Barbeito, L. 19
Basbaum, A. I. 183, 617
Beaudoin, M. 137
Bedaux, J. J. M. 283
Ben-Ari, Y. 137, 151
Benes, F. M. 651
Berendse, H. W. 73
Bergmann, M. 569
Bertini, L. T. 237
Besson, M. J. 61
Bird, E. D. 651
Björklund, A. 407
Blasquez, C. 509
Blessing, W. W. 261
Bovolenta, P. 463
Braak, E. 823
Braquet, P. 509
Brené, S. 813
Bretschneider, F. 283
Brodin, E. 813
Brookes, S. J. H. 863
Brownstone, R. M. 171
Buma, P. 517

Casley, D. J. 245
Cavada, C. 683
Cazin, L. 29
Cha, J. J. 671
Chai, S. Y. 245, 483
Chazal, G. 793
Chéramy, A. 19
Chesselet, M.-F. 49
Ciofi Luzzatto, A. 893
Clementi, F. 301
Coen, C. W. 291
Colpaert, F. C. 541
Coote, J. H. 614
Costa, M. 863
Cotton, R. G. H. 757
Cozzolino, A. 41
Crandall, P. H. 351
Cunningham, E. T. Jr 407

Daszuta, A. 777, 793
De Stefano, M. E. 893
Delbende, C. 509
Deloulme, J. C. 561
Descarries, L. 777, 793
Desce, J. M. 19
Dessi, F. 137, 151
Di Chiara, G. 41
Diana, M. 441
Dijkstra, H. 365
Donahue, S. P. 275
Du, F. 397

Elekes, K. 583
English, A. W. 275
Esiri, M. 613
Everitt, B. J. 1, 335

Farol, P. A. 651
Fenu, S. 41
Fernandez, T. 463
Feuerstein, C. 427
Flumerfelt, B. A. 739
Folkers, K. 731
Foster, A. C. 387
Frankhuijzen, A. L. 365

Galli, T. 19
Garcia, S. 793
Geffen, L. B. 757
Geiger, J. D. 171
Gensburger, C. 561
Gispen, W. H. 517
Glowsinki, J. 19
Godeheu, G. 19
Gogas, K. R. 617
Goldman-Rakic, P. S. 683
Gordon, S. 201
Gratzl, M. 569
Groenewegen, H. J. 73
Groeningen, C. van 283
Gross, G. 473
Groves, P. M. 103, 441
Guidolin, D. 893

Hagan, J. J. 365
Håkanson, R. 731
Halliday, G. M. 757

Hao, J.-X. 731
Hara, H. 159
Hefti, F. 639
Herman, J. P. 427
Hernandez-Nicaise, M.-L. 593
Hettmannsperger, U. 215
Hoffmeister, B. 603
Hökfelt, T. 731
Hood, S. H. 715
Hornung, J.-P. 757
Hrycyshyn, A. W. 739
Hunt, S. P. 739

Ingham, C. A. 715

Jänig, W. 603
Jarrard, L. E. 335
Jégou, S. 509
Johnston, C. I. 245

Karavas, A. 245
Kataoka, K. 661
Kato, H. 159
Kawaja, M. D. 739
Keicher, E. 593
Keilhoff, G. 379
Kiss, J. Z. 237
Knoth, R. 215
Knyazev, G. G. 555
Knyazeva, G. B. 555
Kogure, K. 159
Köhler, C. 397
Kohzuki, M. 245
Kopp, J. 813
Kovács, K. 841
Kupfer, W. R. 351

Labandeira-Garcia, J. L. 407
Lahr, G. 569
Lapchak, P. A. 639
Le Moal, M. 427
Lee, W. L. 451
Lesiuk, H. J. 171
Levesque, M. F. 351
Levine, J. D. 617
Li, Y.-W. 261
Lindefors, N. 813
Lindén, A. 813
Lisney, S. J. W. 603
Livingston, J. N. 853
Llinás, R. R. 613
Louiset, E. 29
Lund, P. K. 531

Maggio, K. 593
Majocha, R. E. 651
Makara, G. B. 841
Makowiec, R. L. 671
Malherbe, P. 497
Manier, M. 427
Marotta, C. A. 651
Marsal, J. 707
Martinez-Mir, M. I. 697
Martinez-Murillo, R. 463
Martone, M. E. 103
Matthews, R. T. 451
Mayerhofer, A. 569
McKinley, M. J. 483
Mendelsohn, F. A. O. 245, 483
Metz, C. B. 531
Millan, M. J. 541
Mitani, A. 661
Mohapatra, N. K. 531
Morelli, M. 41
Morris, K. A. 1
Moss, A. M. 853
Müller, H. 823

Nicaise, G. 593
Nicol, G. D. 629
Nieto-Sampedro, M. 463

O'Brien, A. 1
Oesch, F. 215
Oestreicher, A. B. 517
Ohm, T. G. 823
Okuno, E. 397
Oleskevich, S. 777, 793
Onodera, H. 159
Opacka-Juffry, J. 291

Paggi, P. 893
Palacios, J. M. 697
Palkovits, M. 841
Papp, Th. 215
Paxinos, G. 245, 483
Pearson, R. C. A. 299
Peeling, J. 171
Penit-Soria, J. 61
Penney, J. B. 671
Perry, V. H. 201
Persohn, E. 497
Persson, H. 813
Peters, R. C. 283
Petrusz, P. 531
Pittaluga, A. 19
Presley, R. W. 617
Pretorius, J. K. 351
Probst, A. 697

Qü, M. 473
Quandt, F. N. 629

Reichling, D. B. 183
Represa, A. 137, 151
Rétaux, S. 61
Réthelyi, M. 531
Richards, J. G. 497
Richardson, T. L. 125
Robbins, T. W. 1, 335
Roden, R. L. 275
Rodrigo, J. 463
Ruiz de Elvira, M. C. 291
Rydzy, M. 171

Sarhan, S. 561
Saunders, J. K. 171
Sawyer, S. F. 103
Schleicher, A. 473
Schnetkamp, P. P. M. 629
Schwarcz, R. 397
Schwartz, G. A. 275
Sedvall, G. 813
Séguéla, P. 777
Seiler, N. 561
Selden, N. R. W. 335
Sensenbrenner, M. 561
Sher, E. 301
Smith, S. S. 309
Soghomonian, J.-J. 49
Šťastný, F. 379
Steele, P. A. 863
Steinbusch, H. W. M. 365
Sutherland, G. R. 171
Szente, M. B. 321

Tacconelli, F. 291
Teunis, P. F. M. 283

Tolochko, Z. S. 555
Tonnaer, J. A. D. M. 365
Törk, I. 757
Toschi, G. 893
Tranchand Bunel, D. 509
Turner, R. W. 125

Unger, J. W. 853

Valentijn, J. A. 29
Van Lookeren Campagne, M. 517
Van Luijtelaar, M. G. P. A. 365
Vaudry, H. 29, 509
Verkleij, A. J. 517
Volk, B. 215

Watkins, K. C. 777
Werner, L. 473
Wesselingh, S. L. 261
Whetsell, W. O. Jr 397
Wictorin, K. 407
Wiesenfeld-Hallin, Z. 731
Wolf, G. 379
Woody, C. D. 321

Xu, X.-J. 731

Young, A. B. 671
Young, S. J. 441

Zilles, K. 473

Reproduced with the permission of Pergamon Press Inc., by University Microfilms Inc. Duplication or resale without permission is prohibited.